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FORMERLY

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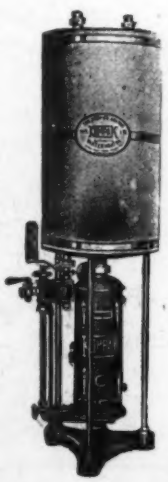

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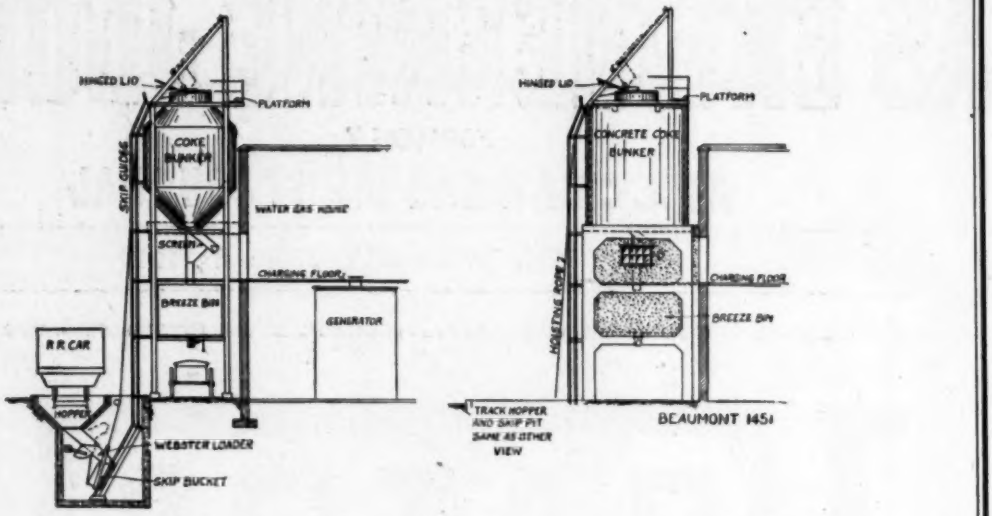

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American
Gas Engineering Journal

FORMERLY THE AMERICAN GAS LIGHT JOURNAL

Vol. CX, No. 25 NEW YORK, JUNE 21, 1919 Whole No. 3198

Wherein a Joint in the Outlet Pipe from a 2,000,000 Cu. Ft. Holder 18 Ft. from Tank Bottom and a Diver Cleans Out Bottom with Holder Full of Gas

The Leaky Joint Let in Enough Ground Water to Appreciably Interfere with Working of Seal and the Cleaning Was Necessitated by Naphthalene Accumulation that Tilted Lifts to the Extent of Distorting Side Guide Rubber Shafts

By A. H. HARRIS, Jr.,

Superintendent, Coal Products Manufacturing Company, Joliet, Ill.

The Coal Products Manufacturing Company operates a by-product coke plant of fifty-three ovens, supplying gas to the Western United Gas & Electric Company for distribution over quite an area in Northern Illinois adjacent to Chicago. To this plant has recently been added an 11 ft. water gas set, and two more and a 500,000 relief holder are in the process of construction. The mixed gases are made into a two million cu. ft. holder at the Coal Products plant, and is delivered from there by compressors to the high pressure lines, which feed three more two million ft. holders located at Aurora, Elgin and La Grange respectively.

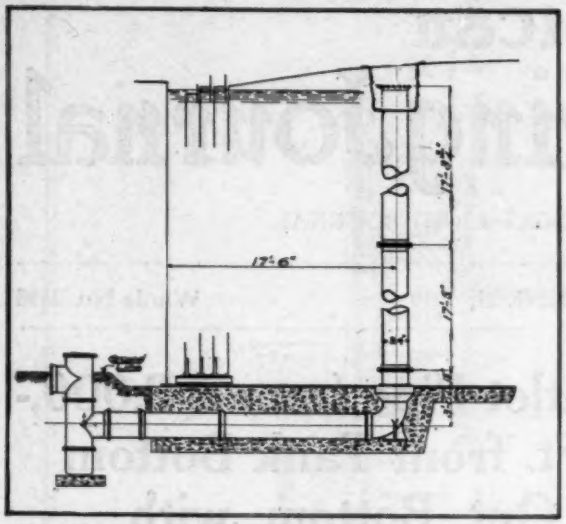
In the early summer of 1915, considerable excess water commenced to accumulate in the outlet drip pot at the Joliet holder. The drips are pumped once a day, normally, fifteen minutes with a hand pump being all that they need. When it got to a point so that it took over two hours to clear this drip and one further up the line towards the compressors, we decided that something must be the matter. Our first thought was that a leak had developed in one of the pipe joints in the ground, and as there is considerable water in the ground thereabouts this seemed feasible. No smell of gas could be noticed, however, by barring the ground at all the points, but we did smell gas one day when the wind was blowing from the holder, and upon investigating found that the water in the tank was about 17 in. from the top. This was just low enough so that the lift which was cupping at the time was not sealed, and the gas blew out underneath it. We then decided that the water from the tank had been pumped out of the outlet drip, and the problem was to find out how it got in there, and then to stop it.

Testing for the Leak

The outlet valve on the holder was closed, after opening the by-pass, and the compressors took the gas directly from the ovens, with the holder floating on the inlet line. A plug was removed from the outlet drip till the water flowed out even with the top of it, and a pressure gauge installed. Readings of this gauge showed a steady increase in pressure for several hours, as the head in the pipe increased to about 18 ft., and then a gradual slowing up in the rate of increase until the full 35-ft. head of the tank was indicated, showing the outlet pipe to be entirely full. Several check tests confirmed the first, the change in the rate of increase in pressure always occurring with about 18 ft. of water in the pipe. The water flowed through the leak at a steady rate, until the level in the pipe rose up to it, and then at a gradually decreasing rate as the difference in head between the inside and outside of the pipe grew smaller. At least so we reasoned, and when we got inside we found our supposition to have been correct.

Getting Ready to Work, Landing the Holder

There are three 36-in. pipe connections to the holder, and directly above the vertical pipe of each is a manhole plate on the crown sheet. A large canvas tube was made, about 42 in. in diameter, and weighted at one end. This was made long enough so that it would reach from the crown sheet, when the holder was landed, to several feet below the water level in the tank. A heavy iron ring of the same diameter, was sewed in the other end of the tube. The holder was brought down so that



THE CANVAS TUBE, BOLTED TO THE HOLDER CROWN, AND EXTENDING OVER THE OUTLET PIPE BELOW THE WATER LEVEL

only the top lift was out of water, and when everything was ready the compressors were speeded up and the holder landed. The exact position when landed had previously been determined, and as soon as this was reached the inlet valve was closed. A U gauge was also connected to the top of the crown, and carefully watched to see that the compressors did not put any suction on the inside of the holder, in case it landed before we figured it would. As soon as the inlet valve was shut, the outlet having been kept closed since the original tests were made, the compressors took the gas as it was made, their speed being regulated so that their inlet pressure was kept between 4 to 10 in. of water, indicated on a U gauge especially installed for that purpose.

Repairing the Leak

As soon as the holder was landed, the plate over the outlet pipe was removed, the trapped gas in the crown rushing out till atmospheric pressure was reached. The canvas tube was put through the hole and over the pipe as shown in Fig. 1, the bottom of it sinking in the water about a foot. The top, with its ring, remained on the outside of the crown, virtually continuing the outlet pipe into the air. The drip having been pumped out, its top was removed, and a good air circulation obtained up through the pipe. The leak, could be plainly seen at the joint half way up the pipe, the water shooting across the pipe in a regular sheet.

After the pipe had been thoroughly aired out, a man was let down from the top on a painter's chair, with a hammer, chisel and lead wool to calk the leak. The water was coming in so fast, however, that it splashed into his eyes when he got to a level from which he could work, and he could not see what he was doing, even with the aid of the powerful electric light lowered with him. He was hauled up again and at somebody's suggestion, about two wheelbarrows full of manure was put into the water around the outside of the pipe, on the leak side, the canvas, of course, being removed while this was being done. It slowly settled, and upon coming opposite the joint in question, some of it was sucked against the crack, and the flow of water materially reduced. The man was again let down the pipe, and half an hour's work, in his rather cramped position, was all that was necessary to fix the leak in fine shape. Part of the original gasket had been blown out causing the trobue but the lead wool made an admirable substitute, and has caused no further trouble.

More Trouble

Last summer upon one occasion this holder was down so that only the top lift was out of the water, and as is usual in such circumstances, every energy was directed towards getting more gas into it. Since the previous experience with low water in the tank, and the holder blowing, the overflow seal had been raised so that the tank was always full with full holder pressure, and readings on this water level were taken every morning. When the top lift, however, after a steady rise of several sheets, remained in the cupping position for several hours without picking up the second lift, it was again investigated, and found that one side of the second lift was so far out of the water that the gas blew out of the cup before it was picked up. The blowing was quickly stopped by filling the cup from an external source, which produced a deep enough seal to pick up the second lift in the proper manner. Measurements of the positions of all the lifts were immediately taken and it was found that they were all higher than they should be, and that on the northwest side, at the position of the inlet pipe, they were all considerably higher than at a point directly opposite, as indicated in the following table. At this time, however, only the second lift seemed to be affected seriously enough so that it should not be landed again, and care was taken to see that this did not happen.

An investigation of the tank bottom was begun at once, and it was not hard to determine that an accumulation of something had collected on top of the landing blocks, and was much thicker on the northwest side than on the opposite. Naphthalene was the first guess, and the correct one, but the oldest members in the organization could not recall ever hearing of such an accumulation as was apparent here, in all their experience. Various methods of getting it out were suggested, but the only feasible one, outside of landing the holder, was to try to pump it out. So a 4-in. centrifugal pump was

TABLE I

Level of Top of Cups When Landed with Reference to Platform

	Should be above platform	Position on 6-24-18 High Side	Position on 6-24-18 Low Side	Position on 6-24-18 Difference	Position on 4-15-19 High Side	Position on 5-26-19 High	Position on 5-26-19 Low	Position on 5-26-19 Difference
Top lift								
2nd lift	11 in.	34 in.	23 in.	11 in.		28 in.	20 in.	8 in.
3rd lift	11 in.	25 in.	16 in.	9 in.	24 in.	21 in.	16 in.	5 in.
Bottom lift	5 in.	7 in.	5½ in.	1½ in.	7 in.	7 in.	5 in.	2 in.

rigged up on skids on the holder platform, with a flexible suction line, moved from place to place by two ropes. Great quantities of naphthalene was pumped out with this apparatus, but the uncertainty of just what was being accomplished, together with the very frequent plugging up of the pump caused us to abandon this method of cleaning the bottom. A diver was then suggested, but as there was not room to get any one by the curb angle of the bottom lift, and the accumulation did not seem to be increasing, the whole affair was left as it was, through the winter.

Still Further Trouble

During the course of the winter the third lift was landed quite frequently, but we did our best to see that the second lift did not land again. This was unavoidable on one occasion, however, and an opportunity was had to check up on the previous measurements. No more naphthalene seemed to have accumulated, as the second and third lifts remained in practically the same position as they were noticed before. Upon the occasion of the landing of the second lift the holder was watched very carefully when it was time for this lift to again be picked up; the gas blew out of the cup as before, but by filling it up with a hose the lift was picked up without any trouble. About the first of April, however, it was noticed that the third lift when landed was under considerable strain, as several of the side guide roller shafts were bent slightly on the high side. The next time this lift landed after this observation had been made, one of these roller shafts broke off and two others appeared to be more badly bent than before. It was then decided that something must be done immediately to completely remove the naphthalene from underneath the lifts or the holder might become seriously damaged. From this time on until work was actually started, it was seen to that the third lift did not land.

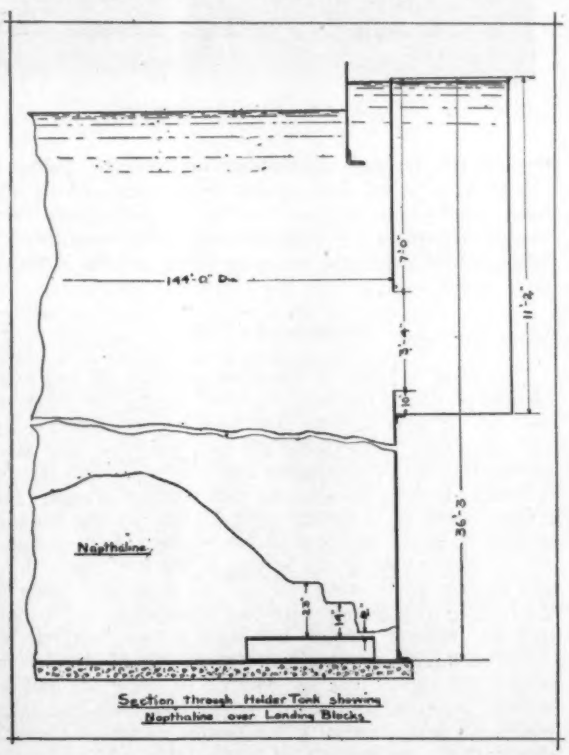


Fig. 1—The Hole in the Tank

From our previous experience in endeavoring to pump out this accumulation of naphthalene we realized that it would be necessary to have someone actually on the bottom of the tank to see that the naphthalene was entirely removed, as it was impossible to determine through the 35-ft. depth of water what was being done on the bottom. To get this man in there was the problem. It was planned to cut a hole in the side of the tank about 10 ft. from the top that would enable him to enter the tank underneath the bottom lift when the holder was full or very nearly so. In order to do this it would be necessary to build a box around this hole carrying it to the top of the tank so that he could enter the box at the platform level, go down through the hole, and then through the bottom of the tank. Before going ahead with this work we called in consultation the Great Lakes Dredge and Dock Company of Chicago, who sent one of their expert divers to look the whole thing over. It was explained to him what we intended to do and he seemed to be satisfied that if everything was done as we said, and there was no possibility of the holder coming down and trapping him inside, he would have no hesitancy in going in and doing what he could with the accumulation. We therefore started in as described below.

FIG 2—"CLOSE UP" OF THE HOLE, SHOWING DRILLING TO RECEIVE THE BOX

FIG. 3—THE BOX IN POSITION

PREPARING THE TANK

In order to cut a hole in the tank 10 ft. from the top it was of course necessary to lower the water level below this height The holder was filled with gas and the water syphoned out to a depth of 12 ft. from the top, careful watch being kept on the holder to see that it was kept full enough so there was no danger of uncupping the bottom lift. This required more or less careful manipulation of the pipe line pressure and when this could not be reduced below a certain point, water gas was made to keep the holder up. About twenty hours was required to lower this level through a 6 in. syphon. While this had been going on a steel box 4 ft. square and 11 ft. deep was being made to fit on the side of the tank. As fast as the water level fell holes were drilled in the tank by means of which this box could be bolted on. When the water had fallen to a sufficient level the hole was sketched on the tank and cut out with an acetylene torch. The hole is 3 ft. 4 in. square and its position is clearly indicated on the accompanying photograph. A number of holes were drilled and tapped around the outside of the large hole so that when all of the work was completed a patch or cover could be securely bolted on with cap screws. When everything was in readiness the box was hoisted into position and securely bolted to the tank, a ¼ in. lead gasket being used, which was tightly calked on the inside when the bolts were thoroughly drawn up. It then required about four days to again fill the tank and we were ready for the diver to go to work.

GETTING TO WORK

The diver arrived at the plant on May 14 and after carefully looking the box over and feeling out the position of the hole said he was ready to go down. His air pump was hoisted onto the tank platform and after getting into all his equipment and with a life line securely attached under his arms he took the first plunge. His course could be followed very closely by the bubbles arising from the exhaust on his helmet. It took but a few seconds to get to the bottom of the box and without any hesitation he went through the hole and down to the bottom of the tank. He had taken along as his only tool an ordinary garden hoe with a two foot handle. After remaining down about ten minutes his tender received the signal that he wanted to come up and he shortly appeared at the top of the box with two large pieces of naphthalene in his hands. One of these is shown in the accompanying photograph. After having

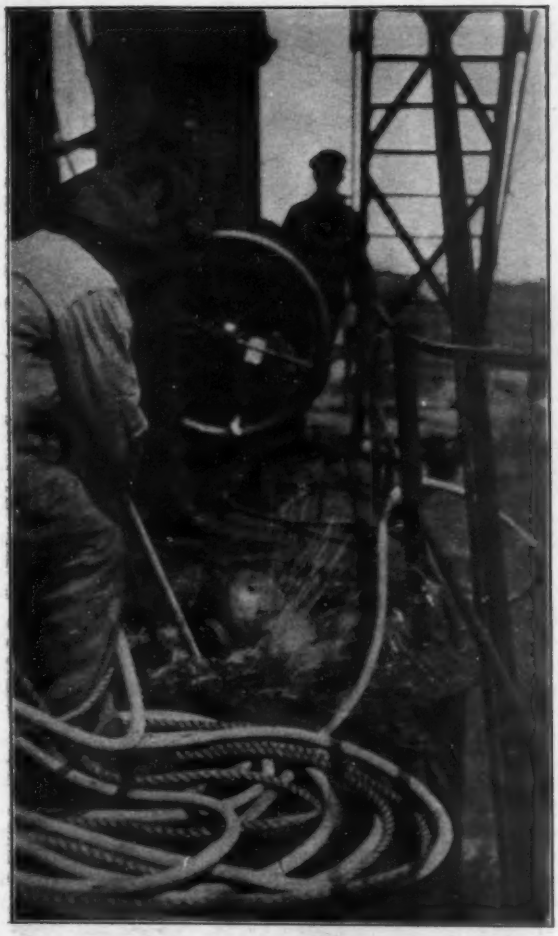


FIG. 4—THE FIRST PLUNGE

FIG. 5- THE DIVER ABOUT TO PASS THROUGH THE HOLE INTO THE TANK

his helmet removed he told us that there was certainly some job ahead of him as there was a lot of stuff down there that in some cases was in piles higher than his head. It seemed to be in steps, very hard and dense so that he had difficulty in removing any of it with his hoe. In between the steps was comparatively soft and in towards the center of the tank the material was in a large loose pile that was taller than he was. He then called for a shovel and went back to work.

The description of the bottom compared very closely with the measurements we had previously taken, giving the positions of the various lifts when landed, but we had not counted on any large accumulation towards the center, figuring that the naphthalene had formed on the inside of the shell and after dropping off had settled in an angular ring which would be highest just inside the landing blocks. The position of the hole in the tank through which he entered was about 120 deg. from the gas inlet to the holder and as he worked around the edge of the tank in this direction the accumulation increased until it seemed at its worst at the position of the inlet pipe. After clearing off the landing blocks for about 75 ft. he complained that the naphthalene shoveled off the blocks and in between them would roll right back into its original position as he had to pile it up toward the center, and the large accumulation inside the landing blocks would have to be moved before he could make any further progress. A 1½ in. hose was therefore obtained and connected up with the fire line so that he could obtain 50 to 100 lb. pressure at the nozzle. By this means he succeeded in washing the loose accumulation further toward the center and was also able to move a good bit of the loose naphthalene between the three steps. The steps themselves had to be dug out with a shovel.

The diver's description of the condition under which he had to work was very interesting and at times amusing. No light, of course, penetrated anywhere near the bottom of the tank and all of his work was carried on in absolute darkness. We seemed to doubt at first that he would be able to do a thorough job without seeing what he was doing, but his description of what he found agreed very closely with what we imagined to be there, and as he had never been inside of a holder tank before we knew he was not making it up. The diameter of the tank is 144 ft, giving a circumference of 452 ft. In order to get half-way around the tank from his starting place it meant that he had to travel approximately 226 ft., pulling his air hose and life line after him. He made one attempt to cut through the center, but encountered the scaffolding of the crown support and being

FIG. 6—COMING UP. A PIECE OF HARD NAPHTHALENE IN THE FOREGROUND

FIG. 7—REMOVING THE HELMET SO HE CAN TELL US ALL ABOUT IT

afraid of getting his line tangled up in the timbers did not try this again. His going around the outside meant that he had to wade through the high bank of naphthalene. In addition to the accumulation over the landing blocks he also discovered three 3 x 10 in. planks about 20 ft. long, two of them rather chewed up where the lifts had been landing upon them. These planks were thoroughly water soaked and had apparently been in the tank since the holder was built.

About six days was required for the diver to travel around the west and northwest side of the tank to the half-way mark, clearing off each block as he came to it and the accumulation between. The other side went much quicker and he was able to complete the whole job in ten days. He said he was perfectly willing to have us inspect his work but everyone concerned was perfectly satisfied to take his word for its being O. K.

The next procedure was to land the three lower lifts and see just how successful his work had been. Rather to our surprise these lifts did not go back to their original positions, as the figures in the table show. Considerable improvement was noted, however, and no difficulty was encountered with the holder blowing at any of the cups when picking up the three lifts again. Neither was there any strain upon the side guide rollers, which was the immediate cause of the diver's going to work. Upon the completion of the 500,000 ft. relief holder, which will be finished about Sept. 1, it is our intention to land the large holder entirely, empty the tank and thoroughly clean out everything which is in there, making into the small holder while this is going on. It is quite possible that some of the hard naphthalene has stuck to the bottom of the various lifts or another plank to the bottom one preventing their proper landing. At all events the entire solution of just what is the trouble will have to wait until we can get inside to see.

Prices Reaching Permanent and Higher Level

Irving Fisher, professor of political economy at Yale University, says:

"The fundamental practical question confronting business men is whether the general level of prices is going to fall. In my opinion, it is not going to fall much, if at all. We are on a permanently higher price level and the sooner the business men of the country take this view and adjust themselves to it, the sooner will they save themselves and the nation from the misfortune which will come, if we persist in our present false hopes.

Emphasizes Need of Pyrometer When Using High Pressure Blast in Water Gas Manufacture

F. L. Weisser Discusses Process Followed by San Antonio Company

The high pressure blast was recently adopted in our plant in connection with the operation of two 11 ft. water gas sets, explained F. L. Weisser of the San Antonio Public Service in his paper on "Economy in Gas Plant Operation," at the convention of the Southwestern Electrical & Gas Association. Although the new turbo blower set has been in use only a short time, the results obtained so far are very gratifying. We were able to reduce the amount of generation fuel per thousand quite materially, and the capacity of the set was increased by a good margin, the value for the enricher remaining about the same. It is to be noted that the generator fuel which is now being used is much inferior in quality than the kind which was used previously.

Temperature Conditions Liable to Rapid Fluctuation

On account of the fact that combustion takes place much more rapidly, due to an increased blast pressure, it follows that the temperature conditions throughout the entire gas machine are liable to undergo greater and more rapid fluctuations than if low pressure blast is used. The use of the pyrometer, therefore, becomes even more important, and without the same it is very difficult to hold the temperature within the proper range.

Various methods are followed out in order to determine a schedule by which the best results can be produced. The whole process, however, depends almost entirely upon that which happens in the generator. In the first place, air is supplied to the generator to raise the temperature of the fuel to the proper value and at the same time have just sufficient combustible gas carried over into the carburetor and superheater to be completely consumed by uniting with the additional oxygen supplied after these gases have left the generator. It is obvious that if any of these combustible gases will be allowed to escape out of the stack, the consumption of fuel in the genarator will be greater than necessary, and, in fact, it has been established that a CO content in the stack gases amounting to three per cent involves a fuel loss of about a pound for each thousand cubic feet of gas made. If, on the other hand, the combustible gases supplied to the carburetor and superheater are less than could be burned with a given volume of air supplied, the time required to bring the apparatus to the proper temperature will be greater than it should be with the result that the generator becomes too hot and a waste of fuel will again be the result.

Again Importance of Temperature

The entire process of the gassification of the generator fuel and of the gas oil is dependent upon the temperature at which the reactions take place, and the least amount of guesswork that is exercised in the way of controlling the same, the closer we come towards getting the best and the most of that which is available.

In case that the checkerbrick in the carburetor and superheater does not contain any carbon deposit it may be assumed that the reduction of CO_2 takes place only to a very slight degree within this portion of the apparatus, and if the temperature is uniform and not exceeding the usual value of 1,250 to 1,400 deg. Fahr. as indicated by the pyrometer, the complete breaking up of the hydrocarbon vapors to form free carbon and hydrogen is also practically negligible. If these assumptions are correct, then the percentage of carbon dioxide, carbon monoxide and of free hydrogen contained in the finished gas is proportionate to the amount of blue gas actually produced.

It is a well-known fact that the foregoing assumption is not absolutely correct. However, the approximation should be nearly so, and it is perhaps sufficiently accurate for the estimation of ordinary operating data. In other words, it is assumed that all of the carbon dioxide, carbon monoxide, and hydrogen is produced in the generator due to the dissociation of the steam.

The Results

Estimating upon this basis and taking into consideration the analysis of the gas made, the results are as follows:

Average heating value of the finished gas 605 B.t.u. per cu. ft:	
Gallons of enricher per 1,000	3.37
Per cent blue gas	76
Per cent oil gas	24
Total B.t.u. per thousand	605,000
Total heat units in blue gas per 1,000 cu. ft. finished gas	228,000
Total heat units in oil gas per 1,000 cu. ft. finished gas	377,000

The total number of heat units per 1,000 cu. ft. of finished gas derived from 1 gal. of enricher is 111,800 B.t.u.

The heating of the blue gas is taken to be 300 B.t.u. per cu. ft.

The specific gravity of the enricher is 0.87 and the heating value approximately 19,000 B.t.u. per pound. Therefore, a gallon of enricher contains 137,600 B.t.u., which indicates an efficiency of approximately 81 per cent.

Operators Must be Specially Trained

In view of the high cost of both labor and material, it becomes very important hereafter for gas plant operators to employ men especially trained in the manipulation of gas generating apparatus, to direct the gas maker in the details of operation. A complete set of operating data should be obtained for each coaling period, if possible. This should include the amount of generation fuel and of enricher used per 1,000 cu. ft. of gas made; the make per run; the heating value and an analysis of the gas, as well as the amount of steam and air used. In case two or more sets are in operation at the same time, it may not be possible to determine the make per run on separate machines; however the amount of fuel, enricher, steam and air used, and the composition of the gas will be found very helpful towards maintaining uniform and good results.

Personal Contact the Best Method of Teaching Consumers Economy in the Use of Gas

H. E. Danner of the Opinion that Such Education Does Not Lessen Demand but Increases It

The fundamental problem to be solved by public utilities to-day is how to continue rendering good service and at the same time produce a fair rate of return on the necessary investment involved. This perhaps is a matter for individual gas companies to determine, declared H. E. Danner, commercial manager of the Houston Gas & Fuel Company, in a paper on "Teaching the Consumer Economy in the Use of Gas."

The majority of American homes to-day demand the service and appliances that have been introduced through co-operation of public utilities and manufacturers. We have entered a period of experience requiring our ability to continue rendering service to customers who now depend upon us.

Stimulating the Use of Efficient Appliances

During these urgent times gas has been the only commodity used in connection with the preparation of every meal, for hygienic comforts and commercial and industrial expansion which has been always available and with few exceptions did not fluctuate in price and will not fluctuate in price in comparison with any other home or business necessity. It is obvious, therefore, that the service rendered by the gas company has taken the leading part in providing a means of economy in its many applications. Not only is it necessary to sell our consumer's efficient appliances but to stimulate their use and to create a greater confidence and better understanding of their operation we should continue to teach them economy. This is a definite and necessary service which can be rendered by every employee in the company, but by reason of a fuller knowledge of general conditions and a desire to create good-will, together with the sale of appliances, this educational service is best performed by well organized commercial departments.

Very seldom do we find a consumer who really knows when their burners are properly adjusted, and many times we find consumers who are of the opinion that they are not obtaining the proper quality or quantity of gas due to improper adjustment of burners.

Personal Contact in Teaching Consumer Economy

Personal contact, in my opinion, is the best method of teaching the consumer economy.

For several years the commercial representatives or salesmen of our company have made continuous house-to-house inspections of all appliances, being provided with the necessary tools for making all minor adjustments and issuing orders to our shop department for adjustments that could not reasonably be made by them. This service had always enabled them to gain an entrance into the home, and in many instances created the sale of better or additional appliances.

Another method of bringing the idea of economy to the attention of our customers is by printing on the face of our gas bills and inserting in the newspapers the following notice:

OUR SERVICE DEPARTMENT IS AT YOUR COMMAND

Tell us promptly if there is any trouble with your gas appliances.

Your request will start *quick service* in operation at once. All adjustments will be made free of charge.

Mantles for your lights or repairs for your gas range, water heater, etc., at regular retail prices.

In addition to this we have printed on the back of our bills a simple explanation of how to read a gas meter, giving an example of how to compute the charge for service rendered, also showing the correct position of the indexes on the dial. This is also printed on cards of convenient size, which are placed near the cashier's office, to be given to anyone interested. We also have a large meter dial 20 x 30 in. framed and placed in our contract department to assist in teaching our customers how to read their meter, believing that if we can teach them how to read their meters they will keep a closer check on the amount of gas being used and this will result in minimizing high bill complaints.

Junking the Hot Plates in the Public Schools

Domestic economy as being taught in our public schools unquestionably brings an economical influence into the home, and with this thought in mind we have through persistent effort, displaced all hot-plate installations in our schools and they are now teaching our future young housewives how to cook on modern gas ranges.

Schools of economy and domestic science which are conducted by gas companies, newspapers and housewives' leagues should be encouraged, as these demonstrations assist in teaching the housewives how to use our service scientifically and economically.

The gas range belongs to scientific cookery. To use it economically and successfully, one must know the value of heat units and food cooked at proper temperature. Efficiency in gas service must always mean the general and satisfactory use of gas appliances.

Gas companies in recent years have spent a great amount of effort and money in educating their public in good service, and after all it is not so much the price of appliances or gas as the service that goes with it that influences the consumer, and the companies which give the best service secure the most business.

Teaching our consumers economy does not necessarily mean that a reduction in the use of gas will be experienced as the best satisfied consumers will no doubt find additional needs for its use.

The lesson learned in economy during the war period and the business methods adopted in the home and commercially for economical reasons as well as for filing income tax reports should assist us in our present problems of reconstruction, rate adjustments and in getting on a business basis whereby we may continue to render to our customers the kind of service to which they have become accustomed.

American Gas Engineering Journal

SIXTIETH YEAR

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As the Journal Views It

The Worker Holds the Cudgels

It is the employee's day, we are told. The employer—the company—must tread lightly. The worker holds the cudgels.

All of which is premised upon present-day conditions, and present-day possibilities. The employee class is in the vast majority and we must play up well to that majority, cater to it and cajole it. Otherwise we may have Bolshevism.

All of which, we might add, is pretty much the result of hysteria and pretty much arrant nonsense.

In contemporary years there has never been a time when the employee did not hold the cudgels. They may not have been represented necessarily in walkouts and striker threats, but they have been powerful nevertheless.

Intelligently handled companies have long realized it. Some unintelligently managed companies have fooled themselves into believing when help was plenty and demand light that they held the whip hand and could deal with their working forces as they saw fit to.

Some have tried it.

Strikes did not result. Even grumbling within the grounds was in whispers.

Yet such companies have paid or will pay dearly. To have dealt justly with their workers would have cost less.

The need of holding his job may prevent the employee from quitting at a particular time; it may prevent his striking; it may prevent his giving the company the benefit of his own thoughts on the matter, and it may stifle open grumbling. But it will not prevent his pouring his confidences into the ears of a neighbor, that neighbor's repeating those confidences to another or even a newspaper reporter.

There are a number of employees in the smallest company. Confidences undesirable from the company's standpoint thus are multiplied. The story carries.

Some day, when the company, as every public utility inevitably must, goes before its public asking something, the chickens will come home to roost. It will find its "frank and open" laying of its cards on the table propaganda viewed with an amazing degree of skepticism.

There's one sure set of cudgels the employee has always carried. Intelligent managements have realized their strength and considered them.

Unintelligent managements, of course, do not realize anything until it is literally hammered into their senses. And such hammering does not always stop when the management is awakened. It keeps on going even unto the receivership.

Whatever be the ratio of supply to the demand, there is only one way to deal with the employed. That is straight justice and fair play.

A thousand men may be clamoring at our gates for work at a dollar a day. Yet if a dollar a day will not provide for him a decent existence, and those other things besides that make life worth living, it isn't a fit pay to offer a gas company worker.

This isn't merely a good rule. In our situation it is sound, selfish common sense.

He's One of Them So He Knows Best How They Should Be Handled

We've been told that a good many plans of presidents, general managers, managers, or whatever a company sees fit to style the man who is ostensibly its executive head, have been quashed, sat upon or otherwise junked by the financial interests who constitute the companies' principal ownership. And many of them, we are assured, were good plans too.

We've observed owners who didn't know anything at all, practically speaking, about motor cars give explicit and detailed instructions to their chauffeurs, who did, as to an automobile's care and use. We've heard business men whose horses were to them mere playthings seek to guide professional and experienced trainers as to the grooming of those horses for races.

And we've always been, internally, a trifle cynical.

We've regarded that sort of business considerable of a pose, either to impress the employees in question or perhaps even bystanders.

We've always suspected, to a greater or less degree, that the owner didn't really believe his instructions would be followed out literally, and didn't desire that they should be.

Nevertheless, there is a human tendency on the part of the owner of anything to arrogate to himself a voice in its management that is altogether out of proportion to his competency.

If there are ownerships represented in the gas field that have not full confidence in the ability of the executives they have selected to manage their properties to do so, the present would be a good time to select someone else in whom they can place such confidence. This done, they should then follow an almost "hands-off" policy and really let him manage.

The AMERICAN GAS ENGINEERING JOURNAL has always felt that the company manager who is in daily contact with his public knew better how to deal with it in his particular situation than did the ownership which might be said to come from that public itself.

And, to-day, when the situation within the company's own organization, important though its public relations may be, is even more important, we are convinced that the time for shackling managements or overriding them is most decidedly past.

Let the management be a management in fact as well as in name. The employee situation is a delicate one, and one that can best be handled and understood by one who in the last analysis is an employee himself.

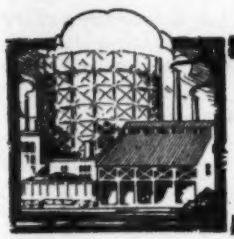
Comparison of Utility Costs in Europe and United States

Facts show that the costs of municipally operated gas plants in Europe are 80 per cent higher than in this country under private ownership. What is meant by this is the fact that wages in Europe average only one-half those of this country; therefore, if gas costs 50 cents per 1,000 cu. ft. in Frankfort, Germany, or Liverpool, England, that price is no cheaper than $1 per 1,000 cu. ft. would be in this country.

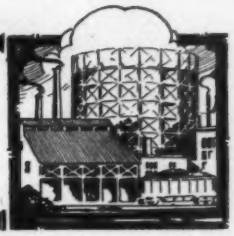
For instance, in Manchester, England, the price of gas in 1914, before the war had any influence, was 64 cents per 1,000 cu. ft., which would be equal to $1.28 in any of our large cities. Manchester, by the way, has cheap coal, cheap water and rail rates, and cheap labor; and the ability of the people to buy things is 50 per cent less than in this country, but under municipal ownership of the gas business Manchester charges 44 per cent higher rates than private-owned plants charge, on the average.

Fuel Saving in 1918 Due to "Daylight Saving"

According to a summary made by the United States Fuel Administration, figures show that the saving in fuel consumption alone in 1918 due to the daylight saving was 1,250,000 tons. In one city the people saved $60,000 in gas and much more in electricity; the average sized city saved from $30,000 to $40,000 in lighting and fuel cost.



NEWS OF THE GAS INDUSTRY



The New Advertising Section of the American Gas Association

By a majority vote of the active members in general session at the March conference, an advertising section of the American Gas Association was created. The new section will be organized at a meeting to be held in the Auditorium, 130 East 15th Street, New York, N. Y., Thursday morning, June 26, 1919, starting at 10 o'clock, at which time officers and a managing committee will be elected and a definite program of activities for the section decided upon. A wonderful opportunity is thus presented to initiate and carry on a most needed and helpful activity for the benefit of the gas industry, an opportunity to effectively place before the American public a better understanding of gas service, and its value to the community, to break down the barriers of prejudice which over a long period of years has hindered our progress and the development of the industry.

In addition to the broad publicity propaganda which it is so necessary to undertake on behalf of the gas business, the direct advertising of gas and service would also come under the direction of this section.

All are asked to attend the meeting on June 26, and by active participation help in the organization of the new section along progressive and effective lines.

Everyone is also invited to become a member of the advertising section in addition to the sections in which one may hold membership at present.

Announcement of Illuminating Engineering Society Convention

The 1919 convention of the Illuminating Engineering Society will be held at the Hotel Sherman, Chicago, Ill., on October 20 to 23 inclusive. The chairman of the 1919 convention committee is Homer E. Niesz, vice-chairman Wm. A. Durgin, and secretary, Edwin D. Tillson.

Worcester Strike Settled Pending Arbitration

Employees of the Worcester Gas Light Company who were on strike for two days, leaving the city without any gas, held a conference and agreed to submit their demands to arbitration before the State Board of Arbitration and Conciliation, which was called to Worcester by the city officials The men returned to work pending the arbitration proceedings, but the gas tanks could not be replenished before 6 o'clock the next morning so that consumers could have their usual supply.

Practically every industry that depends on gas for fuel was forced to suspend operations, almost all the hotels and restaurants were without means of cooking and about 20,000 families that use gas ranges were also without means of cooking.

The supply of gas was exhausted long before the settlement of the strike was brought about by the State Board of Conciliation and Arbitration. The men returned to their work at 5 p. m., and President Osborne of the company announced that the city would have gas by 7 o'clock the next morning.

A warning was sent broadcast by the company urging everybody to shut off all jetcocks. Twenty strokes of the fire alarm at 5:30 and at 6 o'clock in the morning announced the turning on of the gas.

Members of the State Board of Arbitration, including Chairman Willard Howland, Secretary Bernard Supple and Charles Wood, were in conference with members of the strikers' committee, officials of the company, acting Mayor Fred A. Miner and City Solicitor John W. Mawbey for five hours. The strikers the pros and cons were ironed out at first refused arbitration but after they decided to go back to work for the interests of the public rather than to satisfy the company. The board of arbitration will settle the difficulty within the next two weeks.

Worcester was in a serious predicament all one day. All stores that had on sale oil stoves and coal ranges as well as electric appliances for cooking were crowded and long before noon had been sold out. Many of the stores sent auto trucks to Boston and brought back all kinds of appliances for heating. Hotels and restaurants took time by the forelock and installed coal ranges. Others were less fortunate and many of the one-arm lunch rooms were obliged to serve cold lunches to their patrons throughout the day.

The company had seventy-five strike breakers coming on a special train from New Jersey, due in the afternoon just as the strike was settled. They were sent back and the local men resumed their positions.

The loss to the city because of the gas company workers' strike is estimated at $200,000, and in addition stores and hotels lost heavily in trade.

American Gas & Electric Declares Three Dividends—Regular—Special and Extra

The American Gas & Electric Company declared a quarterly dividend on the common stock of 2½ per cent, an extra dividend of 25 per cent and a special divided dividend of 2½ per cent. The regular quarterly dividend of 1½ per cent on the preferred was also declared.

The special dividend of 2½ per cent was declared to enable the company to procure common stock to be disposed of to its employees, executive officers and directors excepted, and to employees of subsidiary companies under a plan to be determined by the board of directors. The company is sending to stockholders a circular letter asking them to sell back to the company, or its nominee,

the stock they are entitled to receive under the special dividend at par ($50).

The preferred dividend is payable August 1 to stockholders of record July 15, and the common dividend July 1 to stockholders of record June 20. The extra dividend is payable July 1 to holders of record June 20 and the special dividend October 1 to stockholders of record June 20.

George B. Evans Testifies Peoples Gas Light & Coke Company Operating on Sound Basis of Economy

Engineer Little Gives History of Company's Toluol Plant and Reason for Its Failure

The Peoples Gas Light & Coke Company of Chicago scored a great success in their rate hearings before the State Public Utilities Commission this week, when George B. Evans, general manager of the Laclede Gas Light Company of St. Louis, testified to the efficiency of the Chicago plant. Witnesses some time ago testified for the commission that the St. Louis plant was a model in efficient management. That the general manager of this plant would give the Chicago company a clean bill of health was impressive to the commission, and served to minimize the mountain of criticism which had been brought out against the operation of the plant.

"All the plants I inspected," said Mr. Evans, "I found operating smoothly and on a sound basis of convenience and economy."

A. B. S. Little, chief engineer for the commission, took up more time in the week's proceedings. He declared that the cost to the gas company of producing and conveying gas to the consumer was not in excess of 59 cents per thousand feet. The estimate, was based upon production costs taken from the books of the company.

That the rate asked by the company is necessary because of certain ruinous investments it has entered into, was brought out by Engineer Little. The history of the toluol war plant which the company built with the prospect of realizing well on the investment, proved one of those projects which crashed with the unexpected signing of the armistice.

The gas company, it was asserted, was expected by the government to furnish a large portion of the toluol used in the manufacture of its explosives, and because of the necessity for immediate production the government offered to erect a plant for the gas company and pay 10 per cent profits. The company, however, preferred to erect its own plant, and raised $2,000,000 for that purpose. Things were just getting under way when the war ceased and the bottom dropped out of the toluol market.

"Now," said Engineer Little, "the company finds that it has to make good its loss by high rates, and therefore the plea of the company that it cannot erect the needed coal-gas unit which would cut down the cost of production rests on the loss sustained in the toluol affair, and not in inherently insufficient rates.

Testimony of Experts in Peoples Gas & Coke Case Vary

Company Will Ask for Further Increase

Considerable variance in the estimates of the experts of the commission and of the Peoples Gas Light & Coke Company is naturally developing. Harry Bates, assistant to the chief engineer of the company, read a statement concerning the production cost of gas, which declared the present cost to the company of gas per 1,000 ft. was 78 cents. The report went into detail concerning costs based on the company's own estimates, including the much disputed "annual charges," which A. B. S. Little, the commission's engineer, refused to include in his estimate. Engineer Little's statement, therefore, varied, and was to the effect that the company's profit was 16 per cent under the present rate, at the present valuation of their property. His estimate was based on the monthly report of the company ordered under the commission's temporary rated ruling. The company, he declared made a profit of 29½ cents on each 1,000 cu. ft. of gas under the present 88-cent rate. The cost of manufacture, delivery and the collection of bills is 59 cents per 1,000, while the revenue from gas and merchandise is in excess of 88 cents per 1,000. Mr. Little estimated the value of the company's property as of March 31, 1919, to be $47,931,966, including its $4,000,000 office building, the year's profit of $8,043,722 representing a return slightly in excess of 16 per cent. The report was intended to lay the foundation for a recommendation that the commission order a substantial reduction in the present rates.

The practice of the gas company in buying about a fourth of its gas at 55 cents a 1,000 ft. from the Public Service Company of Northern Illinois, and the rest from the By-Products Coke company of South Chicago at about 5 cents, was probed by the commission. The Peoples Company get between three and four billion cu. ft. from the By-Products Company, and about a billion from the Public Service Company, an Insull concern. It was claimed before the commission that the 5-cent gas is slightly better than that that costs eleven times as much.

The company is preparing an application for a further advance in gas rates which they will present to the commission soon. The testimony of Engineer Little for the commission is ignored in this statement, which sets forth the grounds for advanced prices which call for a 10 per cent advance. If granted, the increase would involve an addition of more than $2,000,000 a year to the city's gas bills. The estimates already submitted call for a profit of 8 per cent on a valuation of $93,000,000.

Peoples Gas Asks for 93-Cent Rate

Loss of Experienced Employees Cost Company Over $300,000

The Peoples Gas, of Chicago, has petitioned the Illinois Public Utilities Commission for permission to continue indefinitely its present war emergency gas tariff of 88 cents for 1,000 cu. ft. Under the existing agreement of the company the right to make this change automatically expires July 31. Last July a contract existed between the commission and the company whereby 70 cents was the maximum the company was allowed to charge its consumers. Owing to increased cost of production caused by the war, the commission on July 31 last, granted permission to the company to charge an 88-cent rate for one year, an increase of 27½ per cent. The company admits the 27 per cent increase granted last year gave it a profit, though not enough to attract investors and bring the money needed for improvements. New gas holders must be had, it is asserted, if the city is to have sufficient gas supply.

The increase asked for will make a minimum rate to the average householder of 93 cents a 1,000. This

would be a net charge for each 1,000 cu. ft. used in any one month in excess of the first 350 ft. consumed. Where the amount of gas consumed would be more than 10,000 cu. ft. a month a charge of 87 cents a 1,000 would be made. The third rate, which applies only to city and county and charitable institutions using more than 50,000 ft. monthly would be 69 cents. The commission is now conducting an investigation to determine whether the company is rendering adequate service to the public.

One of the reasons set forth in the petition for asking an increase is that it would permit the company to construct new plants for the production of coal gas. Plans for the proposed improvements, which are to cost $1,950,000, are said to have already been completed.

The company states that it will be compelled to expend a sum equal to ? cents a 1,000 ft. on its plants to insure a sufficient gas supply to Chicagoans next winter. Necessity for this is said to be due to increased cost of gas-making material and the deteriorated condition of equipment, causesd by the demand for capacity production during the last two winters.

Loss of experienced employees during the war is declared to have cost the company $320,000. This loss was due to its inability to hire competent clerks in the bookkeeping and billing departments.

West Virginia Loses Natural Gas Case

A preliminary injunction to restrain West Virginia from prohibiting the exportation of natural gas asked for by Pennsylvania and Ohio was granted by the Supreme Court.

A new gas well yielding 1,400,000 ft. a day has just been brought in by the Natural Gas Company of West Virginia on a farm at West Alexander, near the West Virginia line. The well opens up new territory and is expected to result in immediate extended development.

MINNESOTA GAS & ELECTRIC COMPANY has engaged a landscape gardener to design a little park south of their plant at Albert Lea, Minn. There will be pots of shrubbery in the grass space; a hedge of red-twig dogwood and on one of the walls of the office building a clinging-ivy vine.

Demand on Shop of Atlanta Gas Light Company Far in Excess of Capacity

Company Forced to Send Repair Work to Baltimore

Because of the great rush on its gas shop, far in excess of its capacity, the Atlanta Gas Light Company shipped 800 gas meters last month to Baltimore for repair. They filled one freight car. According to C. J. Weinmeister, this is the first time within his knowledge that the company has had to ship meters away from Atlanta for this purpose.

"It was just a case of have to," he says. "The work was accumulating in the shop faster than we could attend to it. The company's business is growing more rapidly than we can extend our facilities down here." Mr. Weinmeister believes the condition which has confronted the Atlanta company is more or less general all over the country. The Detroit gas company recently shipped two carloads to Baltimore for the same purpose, he said, and he had also heard of others whose local repair facilities were insufficient.

Dallas Company's Net Earnings for 12 Months Show $325,607.63

The Dallas (Tex.) Gas Company is realizing an annual return equivalent to 9.39 per cent on its property value of $2,831,284.51 according to figures shown in the regular report filed by Grover C. Bland, chief accountant to the Supervisor of Public Utilities. Gas sales of the company for April totaled $120,425.49, which was a gain of $41,175.61 over April of the previous year. Total net earnings amounted to $18,512.14, an increase over the same month for the previous year of $7,806.01. The Lone Star Gas Company was paid $81,249.64 for gas purchased during the month. Operating expenses of the company totaled $20,744.15, an increase of $4,743.79. The rate of return for last month was 8.06 per cent. The company is allowed a return of 8 per cent under its franchise with the city. All earnings in excess of this amount accumulate to the credit of reserve funds. Mr. Bland estimated that of the total sales 66.68 per cent was domestic, 1.60 per cent industrial, and 31.72 per cent boiler, and of the total consumption 45.61 per cent was domestic, 1.32 per cent industrial and 53.07 boiler. The company was granted its franchise beginning Feb. 1, 1918, and for the fifteen months of operation ending last month the net earnings totaled $324,607.63.

Gas Division of Empire State Company Establishes New Business Department

The gas division of the Empire State Gas & Electric Company reports that its new business department is now well started and already the results obtained are commendable considering the short time that the department has been established. The headquarters are at Bartlesville, Okla. There are five branch offices in the following towns: Miami, Okla., Arkansis City, Kan., Winfield, Kan., Eldorado, Kan., and Mineral Wells, Tex. H. L. Montgomery is in charge. The purpose of the new business department is to promote the sale of gas appliances and fixtures to individual consumers as well as larger quantities of the product to the larger industrial plants. The promotion of a more friendly spirit toward the company, is also one of the aims Every branch office in the different cities has attractive window displays.

Kansas City Files Petition in U. S. Supreme Court to Remove Rate Protection

Kansas City has taken the first step of any of the many cities involved in the gas rate case to dissolve the injunctions which the United States Supreme Court held illegal, and under which the Kansas City Gas Company has been protected in its 60 and 80 cent gas rate. Col. E. M. Harber, the city counselor, and his assistant, M. A. Fyke, have completed the filing of a petition before Judge Wilbur F. Booth, of Minneapolis, demanding the dissolution of the injunction which prohibits Kansas City from interfering with the 80-cent gas rates, and the public service commission of Missouri probably will follow immediately with a similar suit, as will other Missouri cities.

Washington, D. C., Wants Cheaper Gas for Private Consumers

A fight for cheaper gas for the private consumers of Washington, D. C., has been started in the District Supreme Court by William Hollis and Sam Goodman, candy manufacturers, of Takoma Park, D. C., who filed suit against the Public Utilities Commission, the District Commissioners, and the Washington Gas Light Company to enjoin them from charging private consumers of gas in excess of the rate of 75 cents per thousand cubic feet, as established by Congressional act of March 4, 1913.

Plaintiffs represented by Attorney Roscoe F. Walter, declared that the action of the Public Utilities Commission permitting an increase in the gas rates from 75 cents to 90 cents was illegal, and they asked that the gas company be required to return to them the excess amount charged for gas used by them.

California Company Gets Rate Increase

The request of the Coast Counties Gas & Electric Company for an increase of rates was granted by the State Railroad Commission. The increase authorized, the commission stated, will result in average rates for all gas sold of $1.70 in Santa Cruz, $1.73 in Watsonville, $1.82 in Hollister and $1.78 in Gilroy. It is estimated only 70 per cent of the consumers will be affected by the change. The minimum charge in the four districts remains at $1.10 with 10 per cent discount for prompt payment.

Massachusetts Attorney General Rules in Favor of Gross Rate Charges

Attorney-General Attwill, in response to an inquiry from the State Senate of Massachusetts, has submitted an opinion holding that gas companies may lawfully, after establishment by the gas and electric light commission of a net maximum rate to be charged their consumers, establish a gross rate, in excess of the net rate, which must be paid by all customers who do not prior to a specified date pay the net rate.

Municipally Owned Utilities Under State Commission Control?

Question Again Before Court

The State Supreme Court of Illinois has granted a rehearing in the case of the Springfield Gas and Electric Company against the city of Springfield, in which it held at the last term of court that municipally owned utilities were under the jurisdiction of the State Public Utilities Commission. The court denied the petition of thirty-five other cities, including Chicago, to intervene in the case. The court held the clause in the utilities act exempting municipally owned utilities from regulation by the State commission unconstitutional and void.

The Illinois "Home-Rule" Bill Killed

The Illinois "home rule" bill for public utilities was killed in the house on June 5. The gas, traction, electric and other interests of Chicago and the various cities and towns of Illinois wil remain under the State Public Utilities Commission's control by the defeat of this measure.

The bill was "smoked out" of committee by the threat of Representative Truman Snell to tie up the whole house calendar by a filibuster if the bill was not reported out for a vote. The four public utility bills left the committee with the recommendation "do not pass," only two out of twenty-one votes being in favor of the legislation.

Springfield Gas & Electric Company Continued to Furnish Heat During Brisk Weather After Expiration of Contracts

The Springfield Gas & Electric Company continued to give heat to its patrons beyond the May 25 time limit for expiration of contracts until continued warm weather was assured. A. D. Mackie general manager of the company announced:

"When we are absolutely sure none of our patrons will be inconvenienced by shutting off the heat, we will do it,"

All heat which was furnished after May 15 was at the expense of the company.

Springfield, Ill., Planning Ownership of All Its Utilities

In the face of the tremendous opposition public utility companies are putting up to the Illinois "home rule" bill for public utilities, officials of Springfield, Ill., have announced that plans are under way to purchase the electric and heating utilities of the Springfield Gas, Light & Power Company, a corporation organized under the laws of New Jersey.

The purchase is aimed at the complete control of electric service in the hands of the city of Springfield. The city now has a municipal plant which serves approximately one-third of the electricity users of the city. The municipal plant sells its current at 6 cents per kilowatt-hour. The Gas, Light & Power Company's rate is 11 cents. Willis J. Spaulding, commissioner of public property, declared that the municipal plant, serving but one-third of the light and power users of the city, earned $30,000 last year. He expects that the combined plants, together with the heating utility, would earn $150,000 annually.

The corporation in question also owns the street-car system, and there is some agitation for the city to purchase the railway when the company's franchise expires two years hence.

Commissioner Reid also requests that the company install three new gas-testing stations for the examination of meters.

Authority to the city to test the 65,000 privately owned gas meters was asked by the commissioner. He stated that it would bring a revenue into the city of between $45,000 and $60,000 a year.

Finally the request was made of the finance committee that the salary of the head of the bureau of gas and electricity be raised from $3,000 to $4,500 a year.

City Wins Fight of 12 Years

Court Rules City's Occupation Tax Illegal

The city of Lincoln, Neb., finally won its twelve year fight to lower gas rates from $1.20 to $1.00 a 1,000 cu. ft., when the United States Supreme Court affirmed rulings of lower courts in favor of the city. The Supreme Court, however, affirmed the decision of lower courts that an occupation tax imposed by the city on the company was illegal.

Miami, Fla., Receives Report of Tests Made by Bureau of Standards

A detailed report from W. M. Berry, associate gas engineer of the Bureau of Standards, Washington, D. C., confirming the preliminary report on the occasion of a test made by him in April of the quality and heating capacity of gas being furnished the city by the Miami Gas Company, has been received. It shows that a series of tests made on April 14 indicated the company was furnishing gas of an average heating capacity of 534 B.t.u. instead of 575, as required by the ordinance granting the company an advance in rates from $1.50 to $1.90 per 1,000 cu. ft. The report states that this is not an unreasonable requirement, and points out that there sould be no difficulty on the part of the company in eliminating the offensive odors in the gas, as the necessary materials for doing so are available at this time.

Commission Approves Sale of of Gas Company, but Limits Bond Issue

Approving the sale of the gas plants of the Santa Barbara Gas & Electric Company and the Southern California Edison Company to the Southern Counties Gas Company of California, the railroad commission has stipulated that the purchasing company shall not issue bonds to a greater amount than $620,000 to acquire the properties, and directs that the difference between $825,000, the purchase price agreed upon by the companies, and the $620,000 to be raised by the sale of the bonds shall be paid by the stockholders of the purchasing company either through the appropriation of surplus earnings or through some other means which will not result in an increase in the permanent capitalization of the company.

The Edison company will receive $195,000 and the Santa Barbara company $630,000 of the purchase price.

THE PACIFIC COAST GAS ASSOCIATION held a pre-convention dinner on June 14, which they called their "get-together" dinner, in anticipation of their twenty-sixth annual convention to be held in Los Angeles Sept. 16-19, 1919.

Consolidated Will Furnish Gas to East Boston Gas Company

At the suggestion of the gas and electric light commission, Boston consolidated Gas Company has filed the terms of its contract for furnishing gas to the East Boston Gas Company from December, 1918, to December of this year. The Consolidated company agrees to sell and deliver gas not to exceed 80,000,000 cu. ft. per month. The price is 60 cents per 1,000 cu. ft., which may be changed from time to time with the authority of the commission.

Caledonia Company Unexpectedly Strikes Gas Vein

Unexpectedly, at Caledonia, Ohio, a gas vein has been struck at a depth of 120 ft. which is estimated to flow 2,000,000 to 3,000,000 ft. per day. The gas came with such a rush that the water on top nearly drowned the walking beam of the drilling apparatus. At a meeting of the stockholders it was decided to shut off the flow until some permanent determination can be reached. The well was started the 27th of May and is the sixth well to be drilled by the Caledonia Oil & Gas Company. The company had no idea gas would be encountered.

Indiana Company Files Petition to Raise Heating Rate

Petition has been filed by the Northern Indiana Gas and Electric Company with the public service commission for permission to add a temporary surcharge of fifteen cents a square foot of radiation to its hot water heating rates. The present rates are seventeen cents a square foot of radiation. The petition is similar to the one filed that it was not filed at the proper time with the commission last December, which was denied on the grounds of the time of year, that consumers, at that time of the year, would not be enabled to change their heating arrangements in case they cared to do so. In case the petition is allowed it will be possible for consumers to change their heating arrangements without working great hardships upon them.

Operating Expenses for Baltimore Company in 1918 Increased 43.2% Over 1917

The 1918 report of the Consolidated Gas, Electric Light & Power Company of Baltimore, filed with the Public Service Commission shows that the gross income increased 26 9-100 per cent over that of 1917 but that the cost of operations advanced during that period 43.2 per cent. In other words, the gross income for 1917 was $4,763,066.20, while for 1918 it was $10,619,588.53. Operating expenses in 1918 increased, going from $4,480,164.85 for 1917, to $6,415,683.93 for 1918. In this report the company calls attention to the fact that the output of gas had increased from the year 1904 to 1918 over some 6,000,000,000 cu. ft., or, in other words, during the past year the amount of gas manufactured was nearly three times larger than in 1904. During the same year the report shows that there were only 64,000 gas meters installed in Baltimore, while in 1918 there were 144,000; in 1904 the number of gas ranges and water heaters operated in the city were 15,200; in 1918 the number had increased to 165,000. The gross surplus, according to the report, decreased 5.67 per cent. The reserve fund for contingency showed a decrease of 16.67 per cent, while the net surplus shows a decrease of 95.24 per cent. These latter figures are most unusual. The report says that this great falling off in the net sudplus was due to the great increase in operating expenses, etc.

Kyoto Gas Company of Japan Sends Report of Its Business for 1918

The Kyoto Gas Company of Japan, during the last half of 1918, manufactured 206,463,500 cu. ft. of gas and consumed 15,382.21 tons of coal for the purpose; which is a 30 per cent increase compared with the same period in the previous year. The company served 23,029 consumers; it has a main pipe line mileage of 231.39 miles and 902,348 ft. of distribution pipes. The company's by-product manufactures for this six-month period were 11,313.37 tons of coke, 3,177.56 coal tar, 68.35 tons of sulphate ammonia and 16,007 tons of carbon.

Philadelphia Company Supplies 144,948 Domestic and 558 Industrial Consumers

Company Increases Its Receipts $1,658,595 from This Source

J. H. Reed, president of the Philadelphia Company has made the following announcement regarding the gas business of the company:

"The companies comprising the natural gas department drilled 145 wells and purchased 5 wells during the period. Of the new wells drilled, 118 were productive of gas and 27 non-productive. There were abandoned 42 wells which had ceased to be productive, also there were sold 3 wells and one well was reinstated. The total number of operative gas wells owned or controlled by the company at this date is 1,943.

"During the period the company sold 31,062,227,400 cu. ft. of natural gas, being a decrease of 3,017,350,100 cu. ft. as compared with the same period of the preceding year, with increased receipts from that source of $1,658,595.

"There has been an increase during the period of 1,672 domestic consumers of the natural gas supplied by company, making the total number of domestic natural gas consumers 144,948. These companies also supply natural gas to 558 industrial consumers.

Testimony in Relation to Coke at Peoples Gas Hearing

Testimony at the hearing of the Peoples Gas Light & Coke Company, of Chicago, as to coke prices occupied a whole morning session and was presided over by Commissioner Frank T. Funk. Frank J. Herman, of Morristown, Pa., was a witness for the gas company. He was manager of the coke division of the United States Fuel Administration during the war. He testified that since the armistice the price for coke from his district—the Connellsville district—had dropped from the $6 a ton rate fixed by the government to $4 a ton, and practically all the small operators have closed down their coke ovens. The present price is $4.25 a ton, he said. It would be hard to get a contract from the big operators for a six months' supply of coke at less than $5 a ton, and a twelve months' contract would cost between $5 and $6 a ton. The available supply of gas coke he estimated at between 25,000 and 30,000 tons.

G. W. Reed, vice-president of the Peabody Coal Company, appeared as another witness in regard to coke prices for the gas company. Mr. Reed stated that the Manufacturers' Coal & Coke Company of Elkhorn, Ky., was purchased several years ago by the Peoples Company to insure a supply of gas for gererator use. It was operated by the company for a while, he said, and then became indebted to the Peabody Company. As a result of this indebtedness the Peabody Company took over its operation. When asked about the present ownership, Mr. Reed said, "The ownership of this company and of the Peoples Gas Light & Coke Company are very closely related."

The gas company's testimony showed that it has a contract with the Manufacturers' Coal & Gas Company for its entire output of coke in 1919, amounting to 9,000 tons a month until September 1 and ten tons after that. The price is $9.399 a ton. Recent purchases of coke from the Peabody Company were for $6.749 a ton, for material made also in Kentucky. The excess fuel cost from this one contract with the Manufacturers' Company was estimated by the commission's engineer, A. B. S. Little, as $296,800.

U. G. I. Issues Report of Its Work in 1918

A descriptive circular of the United Gas Improvement Company just issued by the committee on development says that the investments of the company are carried on the books at $77,379.09, and that the securities are not pledged for loans or for issues of collateral trust bonds, but remain as free assets in the treasury of the company. This makes a wonderful resource available if it is ever needed. Last year the company had 1,063,925 consumers of its products and it supplied over thirty billion cubic feet of artificial gas and 4,602,981.000 feet of natural gas. The population in the districts supplied exceeds 5,100,000. The circular has a map showing the location of the numerous plants and the kind of business handled by each plant covering sixteen States. The plants are scattered from Maine to Alabama on the Gulf of Mexico and as far West as South Dakota and Nebraska.

Gas Fuel Used in Newly Invented Furnace for Brass Scrap

The use of gas as a fuel in the recently invented furnace for the remelting and recovery of brass scraps is meeting with great success. The problem of recovering brass scraps, which amount to such great bulk in a large plant, has always been complicated by the necessity of refining the substance after it has been melted. By the new invention, however, the two processes go on simultaneously. The furnace is a revolving drum which turns and kneads the molten metal slowly, exposing all parts of the material to the incandescent sides of the drum. The oil and other impurities vaporize off, and when the brass is led off into molds it is all ready for use. Expressions of great satisfaction are heard of the new method.

City Operated Gas Plant at Loss of 74 Cents per 1,000

Escanaba's (Mich.) municipal gas plant for the fiscal year ending March 1, 1919, saw a deficit of $13,417.73 a report by Manager L. D. Goddard, based on the findings of the auditor and presented to the board of public works shows. This is exclusive of the $3,432.95 which is charged by the auditor for depreciation, bringing the total deficit to $16,850 or $13.50 per customer. Every 1,000 cu. ft. of gas sold by the city for $1.12½ cost $1.86½ to manufacture making an actual loss per 1,000 ft. of $.74.

Theater Installs Gas Light

On account of trouble with electric lights in the evenings, when performances are going on, the management of the Lyric Theater in Vincennes, Ind., has installed gas lights, which, in the event other lights fail, will permit patrons of this theater to leave without trouble. Several persons have narrowly escaped injury in trying to reach the exits after the electric lights had gone out.

THE STATE PUBLIC UTILITIES COMMISSION OF ILLINOIS has entered an order again suspending the proposed increase of gas rates asked by the Illinois Northern Utilities Company in the cities of Dixon, Belvidere, De Kalb, Geneseo, Mendota, Morrison and Sycamore. The new order suspends the rates until Nov. 7, 1919.

Exhibitors at the Coming Exhibition of the Manufacturers' Section of the American Gas Association Convention

The entire exhibition space has been allotted to the various exhibitors of the manufacturers' section of the American Gas Association for the exhibition which will be held during the convention at the Hotel Pennsylvania in New York during October. The following is a complete list of the exhibitors with the number of the space to which they are allotted:

1. Metric Metal Works, Erie, Pa.
2. Reznor Mfg. Company, Mercer, Pa.
3. Geist Manufacturing Company, Atlantic City, N. J.
4. Celite Products Company, New York, N. Y.
5. The Mead Gas Heater Company, Delawanna, N. J.
6. The Crandall-Pettee Company, New York, N. Y.
7. The Safety Gas Lighter Company, Haverhill, Mass.
8. The Cleveland Heater Company, Cleveland, Ohio.
9. New Process Stove Company Div. (A. S. C.) Cleveland, O.
10. The C. M. Kemp Mfg. Co., Baltimore, Md.
11. Union Stove Works, New York, N. Y.
12. Young Brothers Company, Detroit, Mich.
13. Reliable Stove Co., Div. (Am. S. C.) Cleveland, Ohio.
14. The Hoffman Heater Company, Lorain, Ohio.
15. James B. Clow & Sons, Chicago, Ill.
16 Weir Stove Company, Taunton, Mass.
17. National Tube Company, Pittsburgh, Pa.
18. Wm. Kane Mfg. Co., Philadelphia, Pa.
19. American Meter Company, New York, N. Y.
20. The Long-Landreth-Schneider Co., New Brunswick, N. J.
21. General Gas Light Company, New York, N. Y.
22. Roberts & Mander Stove Company, Philadelphia, Pa.
23. Sprague Meter Company, Bridgeport, Conn.
24. Shapiro & Aronson, Inc., New York, N. Y.
25. Peninsular Stove Company, The, Detroit, Mich.
26. Pittsburgh Water Heater Company, Pittsburgh, Pa.
27. The Surface Combustion Company, New York, N. Y.
28. G. S. Blodgett Company, Burlington, Vt.
29. Griffin & Co., John J., Philadelphia, Pa.
30. Eclipse Gas Stove Company, Rockford, Ill.
31. Humphrey Company, Kalamazoo, Mich.
32. The Estate Stove Company, Hamilton, Ohio.
33 General Fire Extinguisher Co., Providence, R. I.
34. Superior Meter Company, Brooklyn, N. Y.
35. Geo. M. Clark & Co. Div. (Am. S. C.) Chicago, Ill.
36. Ruud Manufacturing Company, Pittsburgh, Pa.
37. The Bryant Heater & Mfg. Company, Cleveland, Ohio.
38. Steere Engineering Company, Detroit, Mich.
39. The Union Steel Products Company, Albion, Mich.
40. The Michigan Stove Company, Detroit, Mich.
41. Erie Stove & Mfg. Company, Erie, Pa.
42. Meek Oven Mfg. Co., Newark, N. J.
43. General Gas Appliance Company, New York, N. Y.
44. Baltimore Gas Appl. & Mfg. Company, Baltimore, Md.
45. Ofeldt & Sons, F. W., Nyack, N. Y.
46. Detroit Stove Works, Detroit, Mich.
47. The Improved Appliance Company, Brooklyn, N. Y.
48. Rathbone Sard & Co., Albany, N. Y.
49. Welsbach Company, Gloucester, N. J.
50. William M. Crane Company, New York, N. Y.
51. Strauss Gas Iron Company, Philadelphia, Pa.
52. Illinois Specialty Manufacturing Co., Bloomington, Ill.
53. Wolff Gas Radiator Company, The A. H., New York, N. Y.
54. Lawson Mfg. Company, Pittsburgh, Pa.
55. B. Ryan & Co., New York, N. Y.
56. Minneapolis Heat Regulator Co., Minneapolis, Minn.
57. National Stove Co. Div. (Amer. S. C.) Lorain, Ohio.
58. The Bartlett-Hayward Company, Baltimore, Md.
59. Lindsay Light Company, Chicago, Ill.
60. Equitable Meter Company, Pittsburgh, Pa.
61. General Briquetting Company, New York, N. Y.
62. The Roberts Brass Mfg. Company, Detroit, Mich.
63. The Lattimer-Stevens Company, Columbus, Ohio.
64. The Eclipse Stove Company, Mansfield, Ohio.
65. A-B Stove Company, Battle Creek, Mich.
66. Will W. Barnes, East Orange, N. J.
67. Isbell-Porter Company, Newark, N. J.
68. Connelly Iron Sponge & Gov. Co., New York, N. Y.
69. United Lead Company, New York, N. Y.
70. H. Mueller Mfg. Co., New York, N. Y.
71. Milwaukee Gas Specialty Company, Milwaukee, Wis.
72. Abram Cox Stove Company, Philadelphia, Pa.
73. Precision Instrument Company, Detroit, Mich.
74. Cutler-Hammer Mfg. Company, Milwaukee, Wis.
75. Claus Automatic Gas Cock Company, Milwaukee, Wis.
76. Quick Meal Stove Co. (Am. S C.) St. Louis, Mo.
77. Perfect Combustion Company, Chicago, Ill.
78. Comsyock-Castle Stove Company, Quincy, Ill.
79. Slattery & Bro., J. B., Brooklyn, N. Y.
80. Dangler Stove Co. Div. (Am. S. C.) Cleveland, Ohio.
81. Republic Flow Meters Co., Chicago, Ill.

Cities Service Announces Development on a Large Scale of Its Subsidiary, Empire Gas & Fuel

Intensified development of enormous oil and gas leaseholds located in the State of Texas, construction of a large new central refinery to take care of increased oil production and make it possible to effect certain refinery economies, together with the expansion of its marketing organization, are the three paramount matters which are now engaging the attention of many of the officials of the Empire companies, the gas and oil subsidiaries of the Cities Service Company, according to bankers who recently returned from a two weeks' tour of inspection of the Empire properties in Texas, Oklahoma and Kansas. Having acquired during the past few years almost 2,000,000

acres of desirable oil and gas leases scattered throughout the State, but most of it in proven territories, the time has now arrived, according to Cities Service officials, when work must be started on a large scale in developing these lands. Members of the bankers' inspecting party who went over certain portions of the vast oil and gas acreage of Cities Service Company in the Lone Star State assert that these lands have hardly been scratched.

Samuel Insull Reports on Middle West Securities Company

Marked increases in costs in the public utility business are evidenced by the annual report just issued by the Middle West Utilities Company, an Insull concern. In spite of the very great increase in gross earnings of the subsidiary companies, operating costs have increased during the year to such an extent that the net earnings are only slightly above those of last year.

Samuel Insull, president of the company, in his annual statement to stockholders said:

"The public service business during 1918 continued to suffer from the increased cost of practically everything entering into its operation. Particularly is this true of fuel and labor. The aggregate increase in cost of fuel in the subsidiary companies, due to increased price alone, amounted to $448,000 more than last year, and $1,066,000 more than the year ending April 30, 1917. The aggregate pay rolls of the subsidiary companies, due to higher wages, increased over $400,000 in the last twelve months. In order to offset the increased cost of operating, the various subsidiary companies have been very actively applying to the proper State or local authorities for increases in their rate schedules. As a result of increased rates allowed for service, or by increasing the selling price of other products, the subsidiary companies have secured increases amounting to $2,000,000 per annum. Only 73½ per cent of this amount is reflected in the subsidiary companies' earnings reported."

The company's report for the fiscal year ended April 30, 1919, shows the net income of the Middle West Utilities Company was $914,513. This compares with a net return of $1,041,602 in the 1918 fiscal year. As dividends on the preferred stock are being paid in scrip, the entire 1919 return was carried forward as surplus, leaving that account, as of April 30, at $2,172,078, the highest point it has reached for some time.

Gross earnings of subsidiary companies increased over the 1918 fiscal year $2,483,913. Of this amount $367,287 came from additional properties purchased, and $2,116,026 on properties reported on last year. The gross showing is, therefore, largely accounted for by increased rates which have been granted. During the year the Middle West Company acquired all the common stock of the Northwest Utilities Company, which owns or controls the Wisconsin Power Company, the Wisconsin Power, Heat & Light Company, the Central Wisconsin Utilities Company and the Mineral Point Public Service Company.

Secretary of Labor, William B. Wilson, Addressed Gas Engine Annual Convention

Engine Industry Sees Big Expansion Coming

The annual convention of the National Gas Engine Association, which was held at the Hotel Sherman, Chicago, June 2 and 3, proved a significant event in the annals of the industry. The presence on the program of Secretary of Labor, William B. Wilson, who discussed the industrial problems of the day, and the consideration of technical and foreign trade problems, were conspicuous features of the gathering. Over two hundred delegates were in attendance, representing gas engine manufacturers in the automobile, stationary and tractor engine lines. The Midwest Section of the Society of Automotive Engineers held its quarterly conference in conjunction with the Gas Engine Association. An interesting display of gas engine parts, ignition systems, crank shafts, etc., attracted much attention. Another instructive feature was the discussion of the gasoline outlook by J. O. Lewis, chief petroleum technologist of the Bureau of Mines at Washington. Mr. Lewis described the new processes which have been developed by the bureau to increase the percentage of gasoline made from oil, and discussed the outlook in oil fields of the country. One of the sessions was occupied with the discussion of the foreign trade situation. The business conditions of the gas engine industry were declared to be flourishing, with marvellous opportunities for expansion to be expected with the signing of peace. The banquet was made memorable by the address of Secretary Wilson, who urged that capital and labor get together to work out reconstruction problems. He predicted a decade of great prosperity in the nation's history, and said that there was no prospect of reducing wages until the cost of living is lower. "With the same spirit in which we entered the war we can make our great fighting machine into a great labor machine overnight," he said. "There will probably be a shortage of labor, instead of a lack of jobs for the returning soldiers We're short about 2,400,000 workers. Last week 9,000 more men were employed than were demobilized. There need be no fear of bolshevism here, for it will never get a foothold, because its principles are such that even our radicals will not acept them. We now have more merchant ships on the high seas than any other nation, and more vessels on the stocks than any other country, and I have no fear of Yankee omission in accepting every afforded opportunity."

Sessions Engineering Company Opens Chicago Office

The Sessions Engineering Company has established quarters in the Majestic building, Chicago. The company has been identified for some time with large industrial power applications in the country, and make their specialty power plant designing, construction and operation. The company also acts in an advisory capacity in problems of mechanical operation. E. O. Sessions, president, has returned to active duty with the firm after eighteen months' absence, during which he served in the Emergency Fleet Corporation of the U. S. S. B. He was the western district manager, with headquarters at Chicago.

The Eastern Shore Gas & Electric Company of Salisbury, Md., gave a delightful outing to its managers of the different branches and about 75 of its employees. The meeting was called a "Get Together" meeting, and was held for the purpose of discussing plans and problems of the company. Superintendent Woodcock, of Salisbury, was in charge.

Personal Notes

Henry M. Byllesby Awarded Distinguished Service Medal

Lieut. Colonel Henry M. Byllesby, president of the H. M. Byllesby company which manages the Standard Gas & Electric companies, and many other great corporations, has been given the English Distinguished Service order. Col. Byllesby served as purchasing agent for Great Britain and the Scandinavian countries during the war, and had his headquarters in London. The minister of munitions in the British government, in advising Col. Byllesby of the honor conferred upon him said:

"I have just learned with great satisfaction that the king has approved of the award to you of the distinguished service order, a much coveted distinction, of which any soldier may be proud. From the moment of your arrival in Great Britain you made it quite clear that you were determined to carry on and largely extend the assistance rendered to my department by your organization, and throughout the whole period of our co-operation with you our personal relations have been of the most cordial character. Please accept my warm congratulations on this well-deserved recognition of the great work you have done."

OTTO H. FISCHER, president of the Union Gas Engine Company, and the man who constructed the motors for the navy dirigible C-5, which made the record run from New York to Newfoundland, attended the convention of the National Gas Engine Association, held in Chicago.

J. F. OWENS, vice-president and general manager of the Oklahoma Gas & Electric Company, represented the Oklahoma company on a trade-extension trip made by Oklahoma City business men over the northwestern and middle eastern parts of the State.

H. J. HOOVER, of the Union Gas & Electric Company, Cincinnati, Ohio, was elected vice-president of the National Gas Association of America at the convention at Cleveland recently.

New President of the New Jersey Gas Association

CHARLES W. HOY

R. L. Cardiff Elected Director of Coast Counties Company

R. L. Cardiff, local manager of the Coast Counties Gas & Electric Company, received a letter recently from S. W. Coleman, the president, announcing that at a meeting of the directors he had been elected to the directorate, to fill the vacancy caused by the death of the late John Coleman, father of S. W. Coleman.

Mr. Cardiff has been connected with the local company for twenty-eight years and has steadily advanced and stands high in the estimation of those controlling the company, who have thus honored him by making him a director.

R. H. STOCKTON, director of the Laclede Gas Light Company of St. Louis and president of the Majestic Manufacturing Company, makers of gas appliances, was elected president of the Commercial Club of St. Louis County. Mr. Stockton is vice-president of the Missouri Federation of Commercial Clubs.

GEORGE W. KITCHEN, CHARLES MARSDON, T. M. METZGER, of Los Angeles, gas manufacturers, and C. H. WEBER, of the San Jacinto-Hemet Gas Company, are considering the prospective and the actual number of consumers of Banning, Cal., and the close-by area, with a view to taking over the Banning-Beaumont plant of the Riverside Gas & Power Company. The citizens of Banning, Cal., are anxious for the use of gas.

MAJOR W. W. NIELSON, of Hartford, Conn., one of the commanders of the 349th Field Artillery, has been appointed assistant to E. C. Deal, general manager of the Springfield Gas & Electric Company. Before entering the army Major Nielson had been associated with the Federal Light & Traction Company.

FRANK J. JEWELL was elected president and secretary, and NELS ADAMS vice-president and treasurer, of the new corporation named the Betson Plastic Fire Brick Company, Inc., of Rome, N. Y. The company's products are plastic fire brick for boiler furnace linings and baffle walls and Hi-Heat cement for use in boiler rooms.

MARYNARD H. SPEAR has resumed his duties as secretary and general manager of the New York & Queens Gas Company of Flushing. He retired from the management of the company's interests last October to engage in work with the Ordnance Department of the United States Army. His place here has been credibly filled by William Raynor, who will now resume the duties of his position as assistant secretary of the company.

GEORGE R. HORNING, gas engineer of the American Public Utilities Company, of Grand Rapids, Mich., has assumed the general management of the Utah Gas & Coke Company. Mr. Horning is not unfamiliar with the affairs of the Utah company, for in the past three years he has visited Salt Lake iCty many times in the capacity of gas engineer for the American Public Utilities Company. His wide experience with this company coupled with his expert knowledge of the manufacture of gas give him an enviable qualification for the post.

A Pennsylvanian by birth, Mr. Horning attended the United States Naval Academy at Annapolis, where he was graduated. Soon afterward he became connected with the American Public Utilities Company in the capacity of gas engineer and his promotion is due to his thorough knowledge of the operations necessary in the economical manufacture of gas and coke.

Major Paul Doty Made Army Cantonments Livable Through His Genius

Major Paul Doty, of the general staff of the U. S. Army, who, until September, 1917, was vice-president and general manager of the St. Paul Gas Light & Heat Company, has made a high record in the Utilities Department of the Army. At Camp Grant, Ill., where he was first assigned, he was in effect "city manager" of that military city, directing the operation and maintenance of the large steam heating, electric lighting, water and sewage plants. Maintaining the camp utilities at a high point of efficiency for the health, sanitation and comfort of the millions of men passing through the army camps and cantonments was considered most important in keeping up the spirits and morale of the army.

On a recent visit to his home city from Washington, D. C., Major Doty was given a warm welcome and one of the leading papers, the St. Paul *Daily News*, gave the following interesting account of him and of the little known work of that branch of the army with which Major Doty is connected:

"It soon became evident that the successful operation and maintenance of the cantonments with the utilities would require that men from civil life experienced in the management of public utilities be selected for this important work. In September, 1917, invitations were sent to a number of public utility officials inviting them to assist the government in the management of the camp utilities. The first officer selected was Major Paul Doty, who, in February, 1917, before the declaration of a state of war with Germany, had been commissioned a major in the reserve corps of engineers of the United States army. Major Doty was selected by reason of wide and successful experience in the management of utilities covering a period of thirty years. On Oct. 1, 1917, he was assigned to Camp Grant, Illinois, where he was attached to the 86th division headquarters, the largest and most important of the cantonments by reason of the magnitude of the central steam heating plants. By reason of parallel construction and operation of utilities, Major Doty was first assigned with the construction quartermaster, Major D. H. Sawyer, and worked with Major Sawyer until Dec. 1, 1917.

Major Doty built up a working organization of officers and enlisted personnel and undertook the organization of the utilities on definite lines of service. He won his spurs in securing a supply of coal at a critical time, with the result that, despite the winter of 1917-18 being one of great inclemency, Camp Grant was warm and comfortable. Morale was maintained and intensive military training was made possible.

"He met the problems of water supply, electric light supply, steam heat, and all utility services with successful administration. Many of the problems were new and foreign to regular army establishments, hence the advantage to the government of the service of public utility managers.

"Major Doty's services at Camp Grant attracted the attention of the authorities at Washington, and in April, 1918, he was ordered to Washington to take charge of the organization personnel and administration of the utilities for all camps and cantonments, and became in effect the first general manager of the first national utilities project. This position required expert knowledge of modern methods of organization, a faculty Major Doty possesses in a marked degree. His wide knowledge of available personnel ready and willing to give their services to the government made the selection of executive officers possible, and methods of administration acquired by years of corporate management were successfully applied to government utilities.

"Major Doty presented plans of organization to the general staff based on the thesis that the utilities are an established necessity, of demonstrated usefulness, and should be self-functioning. Based on Major Doty's plans, orders were issued by the war department in July, 1918, definitely recognizing the functions of the utilities and providing the personnel required for the operations of the utilities. This was a great forward advance and made possible the economical administration of the utilities in which the government had invested millions of dollars. By General Order No. 72, August, 1918, the status of the utilities officer at the various camps and cantonments serving a population of nearly 2,000,000 troops, was definitely recognized and the utilities organizations were definitely established. When the records of the various camps and cantonments become a part of the history of the world war, it will be found that the utilities performed a creditable part of the services faithfully rendered under trying conditions, and credit is due to a new organization of men qualified by special technical ability to discharge the duties imposed upon them by the unique construction and operation of the American idea of cantonments.

"In September, 1918, Major Doty was assigned to duty with the general staff under General Henry Jervey, director of operations, with the construction section of the equipment branch, charged with the duties of consideration of the construction projects of the army with recommendations to the secretary of war. The general staff is composed of the administrative experts of the army, and a detail to the general staff is recognized in the army as a reward of special ability. Major Doty was detailed to the general staff Jan. 2, 1919, and is at present a member of the general staff corps in Washington."

GEORGE H. WARING, formerly general manager of the Utah Gas & Coke Company, has been made assistant general manager of the American Public Utilities Company. The removal of Mr. Waring to a higher post is a move in recognition of his splendid executive and administrative ability, as exemplified in the handling of the affairs of the Utah Gas & Coke Company, through one of the most trying and difficult periods in its history. It was the capable administration of the company's affairs through this period that won for Mr. Waring the advancement which he has been given.

W. H. Soper, Prominent Gas Man in Nova Scotia, Dies

William Henry Soper, prominent in Canadian Gas Association affairs and also a prominent Mason, and one of the best known citizens of Halifax, died on May 18 at his home in Halifax. He was born in Newton Abbott, England, Nov. 22, 1847, and came to Halifax 50 years ago. He had just completed 43 years of service with the gas company. His father was a small contractor in Newton Abbott, Devonshire, England, and an uncle was in charge of a nearby gas works, where Mr. Sopher as a boy had played, and learned the first rudiments of the manufacture of coal gas. Mr. Soper entered the Imperial Navy, and later when his

enlistment terminated, he took his discharge, and two years later entered the employ of the Halifax Gas Company as a fireman. Risinging by the exercise and application of integrity through the positions of shift boss and foreman, he became superintendent in 1902, and held that position until the time of his death at the age of 71 years. The industry has suffered a great loss through his demise, as his views on all questions affecting the gas industry were astute and comprehensive.

A. C. FLEMMING, recently returned from France, where he served twenty-one months with the 11th Railways Transportation Department, has accepted the position of superintendent of the high pressure distribution system of the Elizabethtown Gas Light Company, of Elizabeth, N. J.

EDWARD G. COWDERY, until recently president of the Peoples Gas Light & Coke Company, of Chicago, has been elected chairman of the board of directors of Counselman & Co.

Gas Men Elected to Office in the Illuminating Engineering Society

The Illuminating Engineering Society, recently held an election to fill offices of the society for the fiscal year 1919-1920, which were made vacant by the expiration of terms. The following men in the gas industry were elected to office in the council and various sections of the society:

William J. Clark, vice-president of the Westchester Lighting Company, of Mt. Vernon, N. Y., was elected vice-president of the Council, and also elected one of the managers of the New York section.

P. S. Young, comptroller and treasurer of the Public Servi Gas Company, of Newark, N. J., was elected a director of the Council.

John C. D. Clark, of the Boston Consolidated Gas Company, was elected a director of the Council, and also elected one of the managers of the New England section.

H. B. Anderson, salesman in the city district of the U. G. I., was elected secretary of the Philadelphia section.

Howard Lym, engineer at the Welsbach Company, of Gloucester, N. J., was elected one of the managers of the Philadelphia section.

Construction Notes

Niagara Falls Company Will Erect New $200,000 Plant

To Be Completed Jan. 1, 1920—Capacity Will Be Increased

The Niagara Falls Gas & Electric Light Company is about to build a new and completely modern gas manufacturing plant on the four-acre site purchased for that purpose some two years ago at Twenty-seventh street and Buffalo Avenue, just north of the International speedline tracks. The plant and equipment, which will be the most advanced type obtainable, is estimated to cost more than $200,000. Officers of the company said the new plant will be completed and ready to supply gas to the consumers by January 1, 1920. The company has made application to the building inspector for a permit to erect the plant, which will consist of some six or seven buildings and a huge gas tank. The buildings will be of concrete, brick and iron construction, with slate roofs. The plans have been prepared by Willis L. Adams. A. H. Merritt general manager of the Niagara Falls Gas & Electric Light Company, to-day stated that whereas the present small plant the company operates at the foot of Niagara Street has a production capacity of 200,000 cu. ft. of gas per day, the new plant will have a capacity of 1,500,000 cu. ft. per day. The company now has about 27 miles of mains, confined to the central part of the city. Mr. Merritt stated that when the new plant is built thirty additional miles of gas mains will be laid in the next two years, covering the entire city.

The huge gas tank which will be part of the new plant will have a capacity of 500,000 cu. ft. of gas. It will be of steel construction and of the most modern type.

STANDARD GAS & ELECTRIC COMPANY has purchased the Rowland Gasoline Company. The company owns and operates casing-head gasoline plants in Drumright, Shamrock Field, Okla.

Woodworking Plant Installs Gasteam Boiler

First One in Woodworking Industry—Proved Greater Economy than Use of Wood Scrap

The efficiency of gas for kiln-treating lumber is being effectually demonstrated in the Chicago territory. A 16-h. p. gasteam boiler is being installed in a local woodworking plant, to furnish heat for kiln-drying lumber intended for special uses, such as ironing boards, tool handles, etc. Although there are several boilers of this type in use in the locality, this is the first to be turned to use in the woodworking industry. In spite of the large amount of wood scrap fit for fuel which necessarily accumulates in such a plant, gas has been found more economical and more convenient. No storage space is required, and its action is more steady and rapid than wood fuel.

Webster City, Iowa, Considering Purchase of a Gas Plant

M. F. Goodbody, president of the Omaha (Neb.) Gas Company, is conferring with the city council of Webster City, Iowa, with regard to selling to Webster City a gas plant. He has offered to make the city a price, or to submit the matter to arbitration, or to permit an unbiased appraisal in the matter of fixing a price.

Michigan Light Company to Extend Plant

The Michigan Light Company, at Flint, Mich., has petitioned the city for the closing of East Street between Mill Street and the Flint River. The company asked to have the street closed on the claim that it is extended across property that never will be used for street purposes and that this land is needed for the extension of its gas-producing plants in order to care for the increased needs of the city.

Perth Amboy Company Improving Service in Low Pressure District

The Perth Amboy Gas Light Company, of Perth Amboy, N. J., is laying 7,500 ft. of 8 in. steel H. P. Line Pipe and 2,600 ft. of 16 in. Bell & S. pipe in their low pressure district; this work is being done to improve the service in the western section of the city.

Los Angeles Company Expending $175,000 in New 12-Inch Mains

The Los Angeles Gas & Electric Corporation is making extensive improvements of its system in Pasadena and vicinity, one of the principal pieces of work being the substitution of new gas mains for old ones on Colorado Street east to Los Robles, thence up Los Robles. In all, the company plans to expend about $75,000 in betterments here at this time and probably more in the northeast section and in Altadena later on.

Sandusky Company Installs 2,000 Gal. Water Tank

The Sandusky Gas & Electric Company has just installed an overhead tank of 2,000 gallons capacity to supply cold water for turbine sealing glands, oil cooling and makeup water for cold wells. Discharge water from the condensers is cooled by sprays and pumped to storage. In the past is has been necessary to purchase from the city water for this purpose, costing approximately $200 per month. By this installation a saving of this amount is made to the company.

Pacific Gas & Electric Installing New Ten-Inch Main

Expenditure of $130,000 by the Pacific Gas & Electric Company in enlarging its gas mains into Richmond, Cal., was announced by Manager Jess Hitchcock. The work will consist of the installation of a 10-in. main from Berkeley to Cutting Boulevard and the putting in of an 8-inch main from that point to the 150,000-cu. ft. container at First Street and Bissell Avenue. The new mains will replace a 3-in. main which has been the city's chief supply in the past. The new system will also provide gas for a large part of the annexed district where it could not be provided before. The work will be under way within the next two months.

Gas Mains Erected in Erie, Pa.

After waiting for two years, homes and business places in Erie, Pa., are now being connected with the mains of the Pennsylvania Gas Company. When the ban was put on by the Government at the beginning of the war new gas connections were forbidden.

Utilities Plan for Over $400,000,000 Additional Investment in Next Five Years

A titanic plan for the investment of $450,000,000 of additional capital in the Public Utilities of Illinois in the next five years, was the result of a meeting of the managers and operators of the Utilities of the State at Springfield on June 13. Announcing that there is need of the vast additional capital for the proper development of the public service corporations of the State, the officials decided to lay the matter squarely before the public in a campaign of publicity. The speakers declared that one-third of all the citizens of the State now are directly or indirectly interested in the Public Utilities in a financial way. They said that 16 per cent of the total of all the people in the State are in the employ of the Utilities.

Old Gas Company to Be Put into Commission Again

A movement is on hand in Medina, N. Y., to revive the old Medina Gas Company, which has been out of commission here for nearly two years. Mayor Stocking had a conference with W. H. Fritchman, representing some outside capital who desire to co-operate with local people in putting the local gas company on a paying basis. The proposition to do this is unquestionably popular in Medina, whose citizens keenly feel the lack of gas for household purposes. A meeting is to be held shortly.

H. M. Byllesby & Co. announce that the $500,000 additional issue of Oklahoma Gas & Electric Company one-year 7 per cent notes offered at 99¾ to yield over 7.30 per cent have been sold.

The General Gas & Electric Company's preliminary statement of gross revenues for its subsidiary companies for the month of April, 1919 and 1918, and comparison is as follows:

System	1919	1918	Increase Amount	Increase Per Cent
Rutland	$42,527.54	$39,517.57	$3,009.97	7.5
Northwestern Ohio	26,500.00	23,776.63	2,723.37	11.5
Sandusky	42,329.23	39,787.25	2,541.98	6.4
Binghamton	38,035.46	33,432.17	4,603.29	13.8
Sayre	10,392.66	10,023.12	369.54	3.7
New Jersey	26,754.00	21,476.56	5,277.44	24.5
Interurban Gas Co.	699.32	660.04	39.28	5.95
Totals	$187,238.21	$168,673.34	$18,564.87	11.00

Standard Gas & Electric Company subsidiaries' gross earnings in the first four months of 1919 increased 20.69 per cent over those in the same time last year, while net earnings rose 15.43. Gross was $9,530,452 for the four months and net $3,643,290, without including earnings from the recently acquired Shaffer oil properties.

Ohio Cities Gas Company elected the following directors at the annual meeting of the stockholders of the company: B. G. Dawes, F. S. Heath, R. McIlvaine, W. F. Burdell, Thomas J. Jones, all of Columbus; John L. Busness, Springfield, Ohio; W. C. Fairbanks, Indianapolis; H. N. Cole, Tulsa, Okla.; W. E. Hutton, Cincinnati; W. W. Mills, Marietta, Ohio, and N. P. Webbe, Philadelphia.

The United Gas & Electric Corporation of Hartford, Conn., filed a certificate yesterday in the office of the Secretary of the State, amending its articles of incorporation to authorize it to deal in petroleum and petroleum products.

General Gas & Electric Company's, Boston, Mass., gross revenues from subsidiary companies for April amounted to $187,232, an increase of $18,564 over those in the same month in the preceding year.

The Wayland Oil & Gas Company has declared the usual quarterly dividend of 2 per cent on the common stock, payable June 11 on stock of record June 2.

The Lone Star Gas Company reports for the quarter ended March 31: Gross earnings, $1,177,151; expenses and dividends paid, $565,221; surplus for three months, $611,930. These are record earnings. The statement for 1918 showed a gross of only $2,317,000 and a surplus after dividends of $172,394, as compared with surplus shown above of $611,900 for only three months of 1919.

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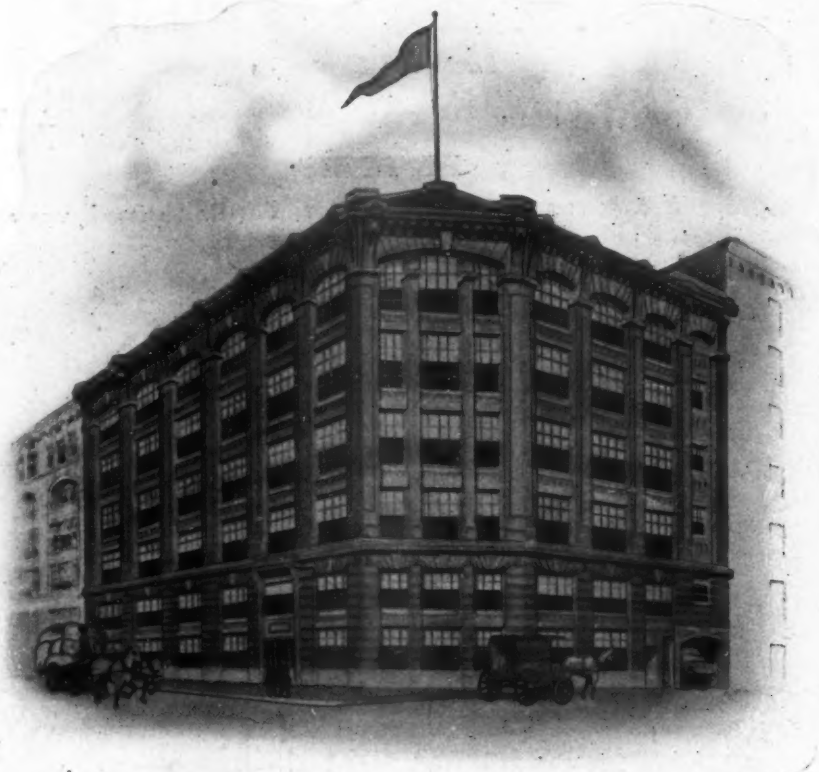

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This Line was Laid in 1850

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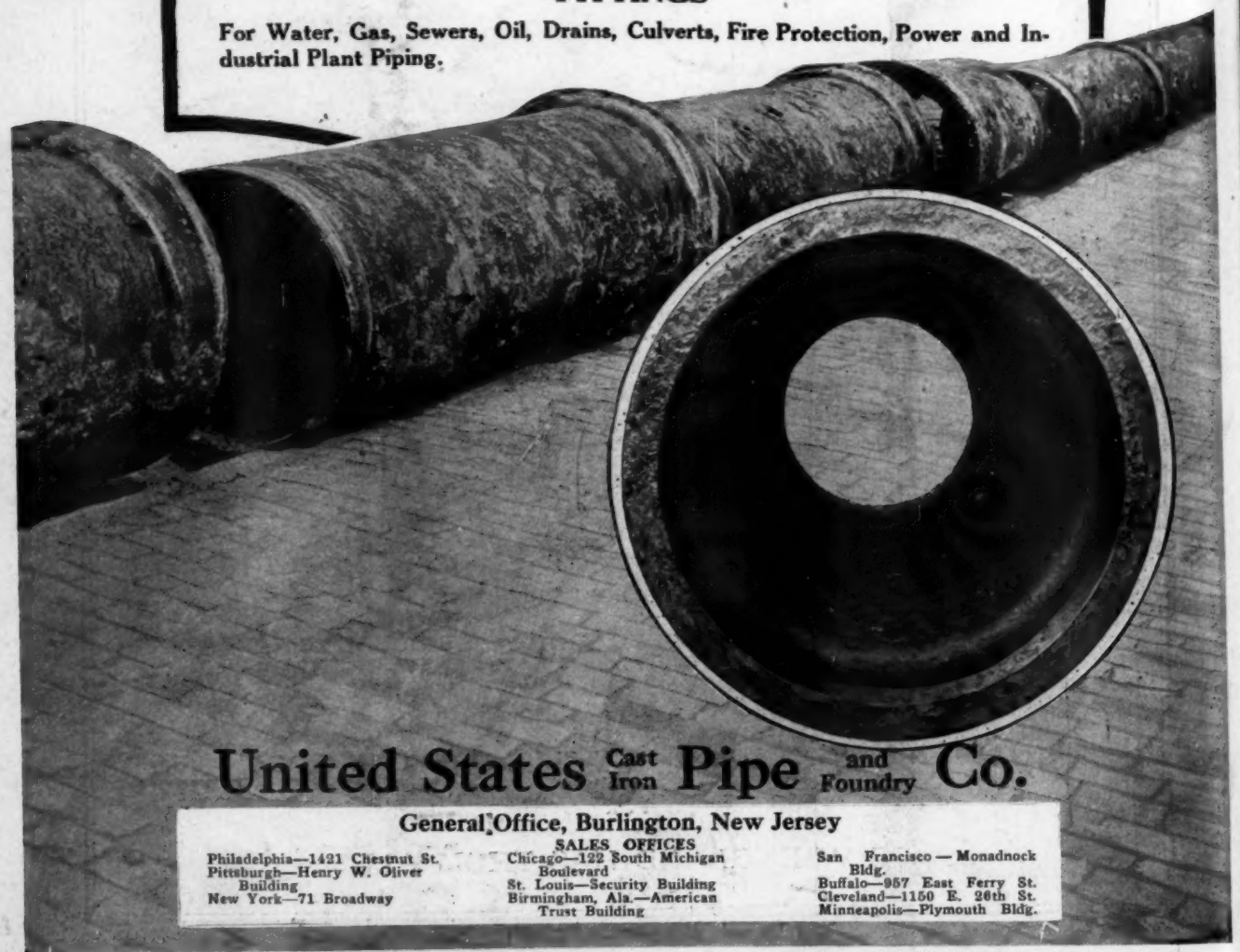

United States Cast Iron Pipe and Foundry Co.

General Office, Burlington, New Jersey

SALES OFFICES

Philadelphia—1421 Chestnut St.
Pittsburgh—Henry W. Oliver Building
New York—71 Broadway
Chicago—122 South Michigan Boulevard
St. Louis—Security Building
Birmingham, Ala.—American Trust Building
San Francisco—Monadnock Bldg.
Buffalo—957 East Ferry St.
Cleveland—1150 E. 26th St.
Minneapolis—Plymouth Bldg.